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Committee on the Peaceful Uses of Outer Space

414th Meeting
Tuesday, 20 June 1995, 10 a.m.
Vienna

Chairman: Mr. Hohenfellner . . . . . (Austria)

The meeting was called to order at 10.20 a.m.

Report of the Legal Subcommittee on the work of its thirty-fourth session (A/AC.105/607) *(continued)*

Mr. Zoubarev (Russian Federation) (*interpretation from Russian*): We believe that many of our colleagues will agree that, for the first time in a long while, participants in the work of the Legal Subcommittee had a really productive discussion of the geostationary orbit this year. The Russian delegation shares the view favoured at the Subcommittee's session by a majority of delegations representing diverse groups of countries that we need to vitalize the dialogue on the multifaceted question of the equitable use of the geostationary orbit. We think it has been possible to correct, if not the essence, at least the general context of the exchange of views. That context has changed, and the discussion has evolved towards more careful and constructive consideration.

The working paper submitted by Colombia raises a number of issues related to the use of the geostationary orbit that are of interest to many developing countries. The specifics of the working paper need careful refinement, because they touch on the interests of States and the general development of satellite communications systems. For that reason, we are pleased at the intention stated at the Subcommittee's session by the delegation of Colombia to prepare by next session a revised version of its draft principles for the use of the geostationary orbit, taking account of all views expressed at the session.

This year we all gained a better understanding that for cooperation on the use of the geostationary orbit in the interests of all States we need to define clearly the logic, objectives and practical aspects of any possible review of the principles governing such cooperation. It is well known that existing norms for the use of the geostationary orbit state that all countries have an equal right to access to the geostationary orbit and orbital frequencies and make provision for the relevant communications authorities to allocate frequencies either by agreement or in keeping with the plan under which all States members of the International Telecommunication Union, including developing countries, have the right to make use of the geostationary orbit for satellite communications and broadcasting systems in frequency bands most appropriate to their needs.

But in practice, the allocation plan is not being used, and in fact amounts to a reserve capacity for the geostationary orbit intended first and foremost for use by developing countries. Allocation of non-plan frequency bands, through coordination and on the principle of "first-come, first-served", makes it possible to meet the needs of the countries that are the best prepared now to make effective use of those frequency bands. The existing ITU procedures for coordination and for the registration of objects are no longer altogether suitable. Frankly, they have resulted in considerable saturation of the orbit by non-existent "paper" satellites. The ITU plenipotentiary conference held at Kyoto in 1994 began work on improving the existing system for coordination of frequencies; that work is being continued by an ad hoc working group on review of existing principles of coordination. The task of the working group is to regulate access to frequency and orbit resources so as to improve the use of the geostationary orbit and to ensure maximal throughput for the orbit.

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Let me say a few words about cleaning up the geostationary orbit. Systematic research and project-related work seem to indicate that it would be possible in principle to solve the problem of large fragments of space debris polluting the geostationary orbit. A great deal of experience has been gained in science, technology and design, making it possible to manufacture space vehicles that can remove spent satellites from orbit; this provides the technical basis for solving this problem. The main thing is to determine the most effective and economical means of removing such satellites. To be sure, these matters must be discussed in the Scientific and Technical Subcommittee before they are submitted for consideration in a legal forum with a view to formulating the relevant recommendations.

Mr. Boroffice (Nigeria): I am grateful for this opportunity to comment briefly on the report of the Legal Subcommittee on the work of its thirty-fourth session. There is no doubt that the report is excellent both in scope and in depth. My delegation welcomes the decision of the Subcommittee to conduct its session with the utmost flexibility, which would not necessarily lead to concluding the session in two weeks.

Members will have observed that many developing countries have not been able to participate actively in the sessions of this Committee and its Subcommittees, for various reasons.

One probable reason is the financial implications of keeping delegates here for a period considered to be too long. Shortening the session of the Legal Subcommittee, when the need arises, will no doubt reduce the cost of attendance and may consequently foster more participation. It is therefore a welcome development that at its 584th meeting the Subcommittee agreed to conclude the session ahead of time without affecting efficiency or productivity.

With regard to nuclear power sources in outer space, we agree with the report of the Subcommittee that the revision of the Principles is quite premature and unwarranted at the present time, in the light of the information available on the subject. Consequently, the Subcommittee decided to suspend the Working Group's consideration of this item for another year, pending the results of the work in the Scientific and Technical Subcommittee. The issue of the use of nuclear power sources in outer space is of concern to all because of its far-reaching implications for human health. My delegation is, however, pleased to note that the suspension of the consideration of this item by the Working Group is without prejudice to the possibility of reconvening to deal with the item if, in the opinion of the Legal Subcommittee, sufficient progress has been made in the Scientific and Technical Subcommittee at its next session.

On matters relating to the definition and delimitation of outer space, it is the view of my delegation that, with the finalized text of the questionnaire on possible legal issues with regard to aerospace objects, substantial progress has been made in the consideration of the item. My delegation believes that the circulation of the questionnaire should not be restricted to member States, but should also include the International Civil Aviation Organization and other relevant international organizations, for the benefit of States not members of this Committee.

With regard to the character and utilization of the geostationary orbit, my delegation notes with satisfaction the Subcommittee's deliberation on the working paper entitled "Geostationary satellite orbit", presented by the delegation of Colombia, which has led to the sponsor's decision to submit a revised version of the paper in consultation with the International Telecommunication Union (ITU) and the Secretariat.

It is the view of my delegation that the status of the geostationary orbit as a limited natural resource is not in contention. While we agree that the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies covered activities in and related to the geostationary orbit, a legal regime for regulating access to and use of the geostationary orbit is necessary. This is because it is a limited resource which might become saturated. We agree that such a regime should guarantee equitable access to the geostationary orbit for all States, taking particular account of the needs of developing countries, including the equatorial countries. This is without prejudice to the legal definition of developing countries.

Mr. Campos (Portugal): Concerning agenda item 6, "Report of the Legal Subcommittee", we agree with the consensus view that the topic of nuclear power sources needs no further consideration in the near future.

Concerning the topic of the exploration and utilization of outer space for the benefit and in the interests of all States, we note that the French-German working paper on space cooperation adds several important subjects to those mentioned in other working papers on the same topic. Altogether, the existing set of

working papers provides the Legal Subcommittee with a broad range of views from which a balanced and comprehensive approach to international space cooperation may be derived.

The other important subject currently on the agenda of the Legal Subcommittee is access to the geostationary orbit and the delimitation of space. The continuing debate does not seem to have succeeded yet in narrowing the gap between opinions that has persisted for so long.

Concerning space debris, we wish to reiterate the opinion that the subject has not reached the necessary maturity at the technical and scientific level to make a legal approach productive in the short term. We believe that the two main recurrent items on the agenda of the Legal Subcommittee — namely, access to the geostationary orbit and delimitation of space and the exploration and utilization of outer space for the benefit and in the interests of all States — could be fully discussed in a two-week session while still leaving some time for the introduction of new topics.

Mr. Louet (France) (*interpretation from French*): I have asked to speak a second time on agenda item 6 because, as you will recall, Mr. Chairman, yesterday I asked when you wanted us to deal with part IV of the report, "Working methods and agenda of the Legal Subcommittee". I did not feel that this should be a separate item from our consideration of the Committee's working methods, because the Committee is seized of the question of its working methods as well as those of its subsidiary bodies. It would be somewhat schizophrenic to try to separate these two linked questions: the working methods of the Legal Subcommittee and working methods in general. They cannot be separated. As we did not have an opportunity to make these comments yesterday, because the discussion of the report of the Legal Subcommittee had not begun when we discussed working methods, I would now like to offer some thoughts on part IV of the report.

My first comment is on the agenda — the actual subjects to be dealt with by the Subcommittee. This is addressed in paragraphs 47, 54 and 55. Paragraph 47 lists a number of items to be considered by the Subcommittee on which no general consensus has been reached. Paragraphs 54 and 55 deal with "New items for the agenda". Paragraph 54 says that the Chairman should conduct wide-ranging consultations in order to come up with a list of subjects that may be considered for future inclusion in the Subcommittee's agenda.

I am not going to analyse this, but it would appear from this text that the Subcommittee has given itself a sort of general mandate to decide its own agenda. I am prepared to accept that the Subcommittee may make suggestions, but nowhere in this text does it say that these suggestions require the agreement of the Committee. It seems to me that it is not up to us to come up with subjects, but we certainly should give the Subcommittees a mandate to confirm our agreement. This is what we did *vis-à-vis* the Scientific and Technical Subcommittee, and that is exactly what our Committee has to do: rule on the working methods of both the Committee and the Subcommittee. We are here for a reason, and we should tell the General Assembly whether we agree with the way in which subjects might be dealt with in the Subcommittee.

In general, I detect a tendency in the Subcommittee to consider itself an autonomous body generating its own rules and its own agenda. I think we must oppose that tendency and assert that it is up to us to guide the work of the Subcommittee.

My second comment is on paragraphs 52 and 53, which deal with the general exchange of views and other matters, issues that we tackled yesterday in the context of the paper that was before us then. Paragraph (d) of the informal paper on working methods suggests — and not a single delegation objected — that the general exchange of views should be eliminated. But now we have a document suggesting that we keep it. I think that there is a problem here that we must solve once and for all.

When the two Subcommittees meet it is to carry out certain specific tasks which we have entrusted to them, not to express general views. I must admit that I was dismayed when I took part in the last two meetings of the Legal Subcommittee, an experience that was almost degrading to the United Nations. The Committee unduly prolonged its meetings on any pretext — general exchange of views, review of working methods, other matters, consideration of taking on board subjects outside its competence that should be dealt with in other forums, as if for some delegations the main purpose of the Committee's work was to fill in time by any means possible.

If this Committee is to command any respect, an ability that it is fast losing, we must ensure that it does its work — that is, deal with specific subjects. That is why I believe that we should deal with both the paper on

working methods and the report in order to compare and revise them, specifically in this area.

I turn lastly to paragraph 56, which concerns me more because of what it does not say than because of what it does way, which is:

> "The Subcommittee agreed that matters related to the membership of the Subcommittee and its Chairmanship are not within the Subcommittee's competence". *(A/AC.105/607, para. 56)*

The Subcommittee considers that it is not competent to deal with certain matters, which therefore should be dealt with by the Working Group of the Committee on the working methods of the Committee and its subsidiary bodies. What I do not like, however, is the implication that our Committee is competent on these matters only. We should tell the Subcommittee that our Committee is competent not only on this item, but on all the others as well; the Subcommittee should disclaim its competence and recognize that of the Committee on everything — defining objectives, approving working methods and so on.

Those are the comments I wanted to make on section IV of the report of the Legal Subcommittee.

The Chairman (*interpretation from French*): The Chair would like to clarify matters. This part of the report of the Legal Subcommittee contains a set of recommendations from the Subcommittee to the main Committee; in other words, the Legal Subcommittee has done its work, the result of which is recommendations which the main Committee has the sovereign right to decide on; as the main Committee, we have the sovereign right to consider and pass judgement on these recommendations. So if the language of the paper we discussed yesterday, which has now become a draft part of the report of the main Committee, has achieved consensus, then it is clear that the main Committee has made use of its sovereign right to evaluate and judge the recommendations of the Legal Subcommittee.

The Rapporteur and the Secretariat, I am sure, will make major efforts in the wake of the very intensive debate we had yesterday, which, as the representative of France said, dealt with matters included in the recommendations. The Chair has high hopes that when we come to this part of the report of the main Committee we will achieve consensus. In other words, the recommendations of the Subcommittee are recommendations and nothing more. The final arbiter is the main Committee, which has the sovereign right to judge all recommendations and confirm them or, if necessary, eliminate them, and so on. That is the view of the Chair on this matter.

(spoke in English)

If there are no further speakers, we have thus concluded consideration of this item.

Mr. Curia (Argentina) (*interpretation from Spanish*): According to the time-table, I was scheduled to speak on item 6 this afternoon, so I wish to know whether consideration of this item is definitely concluded. I do not have the text of my statement with me; it is at the Embassy. I should like, therefore, to speak on item 6 this afternoon, in accordance with the approved schedule.

The Chairman: Of course the representative of Argentina can speak on agenda item 6 this afternoon if it is not agreed that we should conclude it now.

Therefore, we will not conclude consideration of agenda item 6, and the representative of Argentina will speak on that item this afternoon. I would appeal to representatives, however, in view of our intensive discussions yesterday on one of those areas on which I dare to hope that we will achieve consensus, to bear in mind that once the list of speakers is exhausted, we can move on to the next agenda item in order to save time, or allocate that time to appropriate informal consultations on other subjects.

It would be helpful for me to know if any other delegations, apart from Argentina, wish to speak in the afternoon. Do any other delegations wish to speak under agenda item 6?

Mr. Heiremans (Chile) (*interpretation from Spanish*): Ambassador González would like to speak this afternoon on item 6.

The Chairman: We have two speakers for the afternoon: Argentina and Chile. Do any other delegations wish to speak this afternoon under agenda item 6?

Mr. Ribeiro (Brazil): We would request you, Mr. Chairman, to leave some time open for Brazil to respond to the interesting comments just made by the representative of France. We are considering the

possibility of responding to some of those comments in the afternoon, but we are still giving it some thought.

The Chairman: As there are three speakers listed for this afternoon under agenda item 6, we shall not conclude our consideration of that item now.

Spin-off benefits of space technology: review of current status

Mr. Hodgkins (United States of America): It is my pleasure today to review the recent developments in the secondary application of space technology, commonly known as spin-offs. Indeed, this is the Committee's opportunity to present how the space programmes of the world make use of their technological capabilities to improve the quality of life for their general publics.

But this discussion is not limited to those countries with the capacity to conduct space operations. Even more important are the potential contributions of the representatives of developing countries, some of which have space programmes. The developing countries are in a unique position to guide consideration of this topic in the coming years by identifying from their perspectives the particular fields — whether health, energy or other matters — where the problems are most pressing.

A multilateral process of dialogue and exchange of common experiences in this area can assist all our efforts to apply this technology to the solution of problems on Earth. It will enhance this Committee's standing within the United Nations system and, in the process, will enlarge the opportunities for all nations to participate in the benefits derived from space exploration. That is why my delegation is pleased to announce that the United States and the United Nations Programme on Space Applications will organize in 1996 a United Nations conference for developing country experts on adapting space technologies to promote sustained development.

I want to say a few words about how the United States is organized at the national level in this aspect of our space programme. In our opinion, advances in space technology and research should, to the maximum extent possible, find their way into other sectors of the economy. Both the public and private sectors have to be involved. In the area of spin-offs, it is our experience that there are few substitutes for the ingenuity and creativity of the individual operating in the private sector.

Through the Technology Utilization Programme, the United States National Aeronautics and Space Administration (NASA) conducts a number of information dissemination activities. In addition, to distributing to United States industry written materials on technologies developed, NASA conducts a series of conferences, seminars and workshops designed to encourage broader private sector participation in the technology transfer process and to make companies aware of the NASA technologies that hold promise for commercialization. Companies invited include representatives from several sectors of the economy, including health, energy, consumer goods, the environment, public safety, transportation and manufacturing. NASA has found this interactive process to be an extremely effective mechanism for increasing awareness of the potential of space-derived advances outside the traditional space community.

In looking to the future, we believe that with the deployment of the international space station these types of spin-offs will multiply and become even more routine. We are convinced that, through our partnerships with Canada, Russia, European Space Agency States and Japan, the international space station will provide fertile ground for spin-offs well into the next century.

I should like now to review some of the more important examples of spin-off technologies commercialized during 1994.

The health and medical sector continues to be one of the most productive areas for the transfer and application of space-related technologies. One example of a spin-off technology includes the development of a robotic assistant — the Automated Endoscopic System for Optimal Positioning (AESOP) — to aid in the performance of safer surgical procedures. Procedures such as gall-bladder removal, hernia repair, orthopaedic surgery, gynaecological surgery and neurosurgery employ the aid of AESOP. AESOP was developed with the assistance of NASA's Jet Propulsion Laboratory, based on its expertise in the development of semi-autonomous systems for assembling space structures and servicing spacecraft. This state-of-the-art surgical assistant not only minimizes risk and time spent in the operating room, but also improves the quality of the procedure by allowing the surgeon to directly control the field of vision in a smooth and steady movement.

Another spin-off in the medical field is the development of a breast-imaging system that permits

needle biopsies instead of more difficult surgical biopsies. The key component in this system is a highly sensitive charge coupled device which was developed for a space telescope imaging system by the NASA Goddard Space Flight Center for future use on the Hubble Observatory. The device provides images of breast tissue more clearly and efficiently than the conventional X-ray film screen technology. If required, the procedure can be performed under local anaesthesia, with a needle instead of a scalpel, thus leaving a small wound and sparing the patient pain and scarring. The patient can walk out of the office minutes after the procedure and resume normal activities.

The area of environment and resources management has also benefited from space-developed technology. In the industrial area, the possibility - indeed, the frequency — of toxic pollutants' infiltrating our oceans and waterways has become a growing concern for the safety of human and marine life. A product known as the petroleum remediation product (PRP) has been invented to clean up environmental hazards, such as oil spills, using a process called "bioremediation" — in other words, encapsulating live cells. The PRP incorporates technology developed for the fabrication of micro-capsules by the NASA Marshall Space Flight Center and NASA's Jet Propulsion Laboratory.

The PRP is a bioremediation delivery system consisting of thousands of microcapsules that contain micro-organisms. The micro-organisms degrade hydrocarbons — organic "fat" found in petroleum — by secreting enzymes that transform oil into carbon dioxide and water. These elements are released into the environment, leaving residue that is environmentally safe and can be consumed by fish as food.

These are only a few examples of the recent developments in our spin-off programme. The Secretariat will be distributing to all delegations a very nice NASA publication on the 1994 additional spin-offs, which reviews in greater detail the scope and nature of recent developments in our technology transfer programme.

The Chairman: I thank the representative of the United States for his very informative statement on spin-off benefits.

Mr. Navalgund (India): The progress in promoting and realizing spin-off benefits of space activities in India during the last year has been substantial. Since its inception, the Indian Space Programme has been actively seeking to diffuse the knowledge and skills gained in the development of space technology and its applications for the larger benefit of society. This is pursued through the policy of technology transfer on a promotional basis to encourage access to and utilization of technologies for various spin-off applications. The technology-transfer scheme instituted by the Indian Space Research Organization (ISRO) has resulted in the transfer of 225 technologies, which served to expand space-application markets in fields such as telecommunication, meteorology, natural-resources management and a significant number of spin-off uses.

During fiscal year 1994-1995, technologies for nine new products and processes have been transferred to Indian industries. To name but a few of these, we have the Signal Processor Unit, chemical formulations for adhesive applications, laser rangefinder, auto-focus enlarger, coatings — such as the anti-reflection coatings — catering to various segments of the market, Star sensors and Invar filters.

The last year has also seen a growing demand for some of the spin-off products earlier commercialized in industry and thus provided scope for additional licensing to new industries. Examples of such products include precipitated silica from husk ash, non-toxic chemical hand-cleaning agents, the single-component flushing system, optical reflectors and low-cost image-analysis equipment.

In addition to the technology-transfer scheme, consultancy services were initiated by the Indian Space Research Organization to diffuse its expertise in various areas to the industrial sector. To date, over 130 consultancy projects have been executed by ISRO for the benefit of industries to assist in their diversification and product-development efforts. This scheme has evoked a good response from industry and other organizations. All in all, some 500 industries, ranging from small to large, have benefited from their partnership with the space programme.

Several promotional measures have been adopted to encourage greater participation and stimulate the interest of industries in developing spin-offs from the space programme and to promote industry interface activities. These include dissemination of information on potential products and technologies through announcements, publications, product demonstrations, participation in seminar meetings, exhibitions, industry meets and so on. Various other initiatives, such as conducting market surveys on potential technologies and the adoption of

promotional pricing policy, are also undertaken to promote effective technology transfer.

Given the multidisciplinary nature of space activities and the broad range of space activities in India, the technology transfers from the space programme to industries have recorded steady growth and achieved a high success rate. No doubt a sound approach to design and a rigorous quality-assurance culture for space efforts are responsible for this. Through the non-exclusive policy of licensing adopted by ISRO, competition is encouraged both in the selection of recipient industries and in the marketing of products.

The Indian Government has recently set up the Antrix Corporation, a corporate entity catering to the commercial activities related to the marketing of products and services of the Indian Space Research Organization. Through this, the Indian Space Research Organization will be pleased to consider and extend know-how transfer and other services relating to spin-off products to interested users and organizations in other countries.

Mr. Piso (Romania): I am sure I have the Committee's full agreement that spin-off benefits of space technologies have existed ever since the start of the space age, at the beginning of the second half of this century. Rapid progress in, *inter alia*, telecommunications, satellite remote sensing and technologies under micro-gravity conditions has generated a growing market and led to the permanent necessity to take space into account. The continuous improvement and extension of space technologies has had an effect on a multitude of areas of human activity. I should like to emphasize the following facts: first, space technologies push the development of major human economic and social activities, and, secondly, without space technologies the present state of humankind could be seriously distorted and planet Earth might not function without their support.

The evidence for this has been widely debated, fact by fact, during the sessions of the Committee on the Peaceful Uses of Outer Space and its component Subcommittees, a good result being the growing consideration given by Member States to this field of activity of the United Nations.

I should like to call the attention of the Committee to some points related to this agenda item.

An important concept in the consideration of the spin-off benefits of space is technology transfer. It is interesting to observe that space enriches the standard methods of implementing technologies. Technology transfer may occur, first, from space to the Earth in particular, technologies developed for spacecraft are transferred to ground applications; secondly, from space to space — orbited scientific instruments are transformed into technological devices on board spacecraft; and, thirdly, from Earth to space — Earth-dedicated instruments and materials are orbited in order to extend their performance, due to the special conditions provided by the space environment.

It is clear that we may think of a permanent cycle of transfer between Earth and space, each step providing improvements in the particular technology and the benefits that emerge. This is a unique feature of the space-technology-transfer process which should necessarily be considered in the assessment of spin-off benefits.

We note with pleasure that the Scientific and Technical Subcommittee selected a theme for special attention at its thirty-third session relating to the utilization of micro-satellites and small satellites, especially for developing countries. We may say that micro-satellites and small satellites offer a means of increasing the speed of technology transfer, leading to an increase in space spin-off benefits. The low cost of missions, the facilities in quality assurance and testing for scientific payloads and the possibility of orbiting micro-satellites with small commercial launchers or as passenger payloads are all arguments that Member States should take into account in designing their own space programmes.

In particular, micro-satellites may diminish the monopoly of large corporations in current telecommunications and remote-sensing applications, both of which have consistent spin-off that is important for the developing countries.

A distinctive feature of the spin-off of space activities is the wide economic and social area of impact, correlated with the necessary interdisciplinary and pluridisciplinary character of the research, development and education involved in the promotion of space facilities. In this way we are trying to reach the endpoints of the technology-transfer and spin-off process, endpoints that sometimes identify education and advanced research.

I wish to express our satisfaction at the fact that the important role played by education for the development

of space activities has been emphasized by most of the speakers on agenda items 5 and 7. Progress in the implementation of regional Centres for Space Science and Technology Education were clearly outlined in the report of the Expert on Space Applications and made explicit by representatives of Member States. Information on efforts to build specific satellite tele-education infrastructure was also submitted for the Committee's attention.

Education is a space spin-off, and it generates the conditions for future space spin-off. At the same time, it is necessary, especially for the developing countries, to maintain and promote basic and advanced research, the main reason being the long-term educational impact. Low-cost research generates high-level educational spin-off — something that is needed to give developing countries access to space science and technologies and to enable them to cooperate.

We believe that to achieve increased spin-off benefits, especially for developing countries, the following points should be considered.

First, remote network information education cannot cover or eliminate direct contact between education/training facilities and students. To obtain appropriate high-level specialization, students should also be prepared in universities, training centres and research institutes. We suggest that the Committee recommend that the developing concepts of distance learning be complemented with student and teacher exchanges by agreement between interested States and organizations.

Secondly, we suggest that the Committee recommend to Member States, especially the developing countries, the promotion of basic and advanced research as a main factor in generating spin-off from space technology and to sustain space education.

The express necessity to involve all States in space activities for their mutual benefit means implicitly globalization and integration. To access those concepts, developing countries need people equipped with a global understanding of them, an understanding necessary for the appropriate management of specific local applications. Space education can be seen as a means of preparing for the future — and we must prepare for the future.

Mr. Campos (Portugal): We should like to comment on the prospects for smaller satellites and their uses in connection with Earth resources.

The main use, for Earth observation, comes mainly from high-resolution data. In order for small satellites to achieve a higher level of utility we would need to do more work on sensors that can provide high-resolution while being of limited size and weight. There are, of course, international programmes concentrating on very large and costly platforms, but one would like to look for less costly alternatives that would allow for greater participation by smaller countries. We envisage perhaps an intermediate stage of intermediate-size satellites that would have all the benefits of smaller high-resolution sensors, which are not yet feasible for very small satellites.

Mr. Suárez (Mexico) (*interpretation from Spanish*): It is undeniable that outer space has provided many advantages to a certain number of countries. It is also clear that geographic, political and economic inequalities should not prevent any State — including developing countries — from being able to use or enjoy the benefits of space technology, on a basis of equality and of security to prevent abuse.

Accordingly, it is very important to my delegation that the mechanisms for increasing international cooperation in this sphere be reviewed, particularly with regard to the transfer of data and information pertaining to the social and economic needs of the developing countries.

My delegation believes that in order to achieve that objective we could think about the need to provide benefits of this sort at reasonable cost and on preferential terms, so far as possible, for the developing countries, without failing to bear in mind another fundamental aspect — namely, the compatibility of technologies.

Mr. Szegö (Committee on Space Research (COSPAR)): The Committee COSPAR would like to address this issue at this afternoon's meeting, if that is permissible.

The Chairman: Of course. If you are not prepared to speak now, which would have the benefit of our using conference facilities, the Chair is absolutely open-minded.

Mr. Hodgkins (United States of America): I should like some clarification as to how we are to proceed on this agenda item. Will representatives of any Member States be speaking on it this afternoon?

The Chairman: So far there are no speakers listed for agenda item 8 — with the exception of the representative of the Committee on Space Research (COSPAR), who is not a full member of the Committee but an observer. Four representatives would like to speak in the afternoon on agenda item 6, and it is my intention this afternoon to proceed to agenda item 9, "Other matters".

For agenda item 8 there is still one speaker — the representative of Nigeria — and Portugal and the Czech Republic have indicated that they wish to contribute under agenda item 9, though there could be more participants.

Organization of work

The Chairman: Following the technical presentation that is about to be given by the representative of India, Mr. Chandrasekhar, the meeting will be adjourned, but, as I said at the beginning, the remaining time should be used for informal consultations between interested delegations on the outstanding issues — specifically, consultations on a Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, coordinated by the Rapporteur and the United Kingdom.

Technical presentation

Mr. Chandrasekhar (India) made a technical presentation to the Committee.

The Vice-Chairman: I should like to express the Committee's sincere thanks to the delegation of India for a presentation not only interesting but also very useful to everybody.

Organization of work

The Chairman: This afternoon we shall continue our consideration of agenda items 6 and 8 and begin our consideration of agenda item 9.

We hope to begin consideration of our draft report tomorrow or, at the latest, on Thursday morning. This will, of course, depend on the progress we make with regard to the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, working methods and other outstanding matters.

The meeting rose at 11.45 a.m.